

## **REMARKS**

Claims 1-86 stand rejected on prior art grounds. The features of previously presented claims 28-29, 56-57, 59 and 86 are amended into their respective independent claims. Thus, claims 28-29, 56-57, 59 and 86 are herein cancelled. Therefore, claims 1-27, 30-55, 58, and 60-85 are all the claims presently pending in the application. Applicants respectfully traverse these rejections based on the following discussion.

### **I. Request For Documents.**

The attached documents are provided in response to the Examiner's request on pages 8-11.

### **II. Clarification Of Inventorship**

Page 11 of the Office Action requests clarification as to the inventorship of the present invention because Dr. Surendra Gupta is listed as a co-author on several of the prior art references cited, but is not listed as an inventor or co-inventor of the present invention. The Applicants respectfully disagree with the assertion by the Examiner that the cited prior art references disclose the claimed invention and further submit that while Dr. Gupta did contribute to the cited references, Dr. Gupta is not an inventor of the present invention as claimed.

### **III. The Prior Art Rejections**

Claims 1-86 stand rejected under 35 U.S.C. §102(b) as being based upon a public use or sale of the invention. Claims 1-4, 11-27, 30-32, 39-55, 58-61, and 68-84 stand rejected under 35 U.S.C. §102(b) as being anticipated by Veerakamolmal, P. ("DESIGN AND ANALYSIS OF DISASSEMBLY AND REMANUFACTURING SYSTEMS IN THE ELECTRONICS

INDUSTRY,” 1999), hereinafter referred to as Veerakamolmal. Claims 5-10, 33-38, and 62-67 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Veerakamolmal. Claims 28-29, 56-57, and 85-86 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Veerakamolmal, in view of Suzuki, et al. (U.S. Patent No. 5,965,858), hereinafter referred to as Suzuki. Applicants respectfully traverse these rejections based on the following discussion.

The Applicants submit that the cited prior art does not teach or suggest the following features of amended independent claims 1 and 58 or the similar features in amended independent claim 30: (1) “wherein said machine supply information comprises ... refurbishing cycle times for said each part type; and repair costs for said each part type;” and (2) “wherein said configuring comprises... determining whether additional machines should be purchased for dismantling in order to meet said parts demand at a lower cost than dismantling said in-stock machines on said list; and generating a report of suggested additional machines to purchase for dismantling.”

More specifically, the present invention considers various dismantling configurations in order to meet the parts demand at the lowest cost (see paragraph [0017]). These configurations are based on a more complex set of variables than disclosed in the prior art references. For example, the configurations are a function of the set of part types in each one of the different machine types in the machine supply, but also the refurbishing cycle times for each part type and the repair costs for each part type (see paragraphs [0055-0067]). The Office Action acknowledges that Veerakamolmal does not teach that the optimal disassembly configuration is a function of machine supply information which includes refurbishing cycle times and repair costs. Thus, the Office Action cites col. 24, lines 4-42 of Suzuki as teaching these features. The Applicants respectfully disagree.

Suzuki teaches a technique to recycle discarded manufactured articles (see Abstract). Col. 23, line 45-col. 24, line 42 refer to several steps in the Suzuki recycling method. First, an entire discarded manufactured article (e.g., a TV) undergoes a quality check to determine if the article meets the quality criteria. If the quality criteria are met, the manufactured article (e.g., the TV) is restored as a reusable article. If it does not meet the criteria, the manufactured article (e.g., the TV) is transferred to a part/assembly recycle processing method. Although, as indicated by the cited portion (col. 24, lines 4-42), the entire manufactured article (e.g., the TV) may still be worthy of restoring by repairing or exchanging component parts. The decision is based on the used-market price of the article and the cost of repairing it. No where in the cited portion of Suzuki are refurbishing cycle times ever considered.

Furthermore, the cited portion of Suzuki actually addresses an alternative to transferring the manufactured article (e.g., the machine of the present invention) to the parts/assembly recycling for disassembly. That is, the cited portion of Suzuki is concerned with the refurbishing and repair costs for the entire manufactured article (e.g., the TV) and is not concerned with the refurbishing and repair costs of the parts/components of the TV after it is disassembled. No where in the cited portions of Suzuki is it disclosed that the optimal disassembly configuration is determined as a function of the refurbishing cycles times for each part type as well as the repair costs for each part type.

As indicated by paragraphs [0055-0067] of the specification of the present invention, additional variables included in the machine supply information upon which the optimal disassembly configuration can be based include: (1) forecasts of machines expected to be available at a predetermined time (see claims 20, 50 and 79); (2) forecasted end of lease machine returns (see claims 19, 49 and 85); (3) propensities of said different machine types to yield

specific parts at lease end (see claims 19, 49 and 85); (4) percentages of said different machine types which yield certain options when returned to stock at said lease end (see claims 19, 49 and 85); (5) defined machine-to-parts de-manufacturing profit calculations (see claims 19, 49 and 85); etc. None of these variables are disclosed in the cited prior art references.

For example, the Office Action cites pages 146-147 and 177-178, table 6-3 and Figures 6-1, 7-2 and 7-3 of Veerakamolmal as disclosing machine supply information that comprises forecasts of machines expected to be available at a predetermined time. The Applicants respectfully disagree. Pages 146-147 discuss the problem of determining the amount of products needed to fill a demand for components, not a forecast of which machines will be available at a given time. Pages 177-178 address the problem of determining the number of products to disassemble in a given time to fulfill the demand for components during different times, not a forecast of which machines will be available at a given time. Table 6-3 is results table. Figure 6-1 represents supply and demand of product/components. Figure 7-2 represents an integrated remanufacturing system and Figure 7-3 represents another supply and demand of product/components. No where in the cited portions of Veerakamolmal does it disclose that the machine supply information comprises forecasts of machines expected to be available at a predetermined time.

Finally, in addition to generating and outputting a list of machines from the in-stock machine supply to dismantle in order to minimize the cost of meeting the parts demand, the optimization tool of the present invention also determines whether additional machines should be purchased for dismantling in order to meet the parts demand at a lower cost than dismantling the in-stock machines on that list and then generates a report of suggested additional machines to purchase for dismantling (see paragraph [0049]). No where in any of the cited prior art

references is this feature of the present invention disclosed.

Therefore, amended independent claims 1, 30 and 58 are patentable over the cited prior art references. Further, dependent claims 2-27, 31-55 and 60-85 are similarly patentable, not only by virtue of their dependency from a patentable independent claim, but also by virtue of the additional features of the invention they define. Moreover, the Applicants note that all claims are properly supported in the specification and accompanying drawings, and no new matter is being added. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

### **III. Formal Matters and Conclusion**


With respect to the rejections to the claims, the claims have been amended, above, to overcome these rejections. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections to the claims.

In view of the foregoing, Applicants submit that claims 1-27, 30-55, 58, and 60-85, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed **below** to discuss any other changes deemed necessary. Please charge any deficiencies and **credit any** overpayments to Attorney's Deposit Account Number 50-0510.

Respectfully submitted,

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